

# **METHOD AND APPARATUS FOR ROUTING DATA ACROSS AN N-DIMENSIONAL GRID NETWORK**

## **ABSTRACT**

One embodiment of the present invention provides a system for routing data between integrated circuit devices. This system couples together an n-dimensional grid of integrated circuit devices using multiple independent communication networks, wherein each of the communication networks only moves data in two orthogonal directions (e.g., North and East, North and West, South and East, or South and West). The system also includes a routing mechanism that routes data across these communication networks, as well as, into, out of, and through integrated circuits within the n-dimensional grid of integrated circuits. Note that the process of routing a signal across a given network is greatly simplified because it is not possible to create a cycle that causes a deadlock within a given network.